

Observations of the Central Arctic Leveraging Remotely-Piloted Aircraft Systems as Part of MOSAiC



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MOSAiC Drift and Flights



Legs 1 & 2

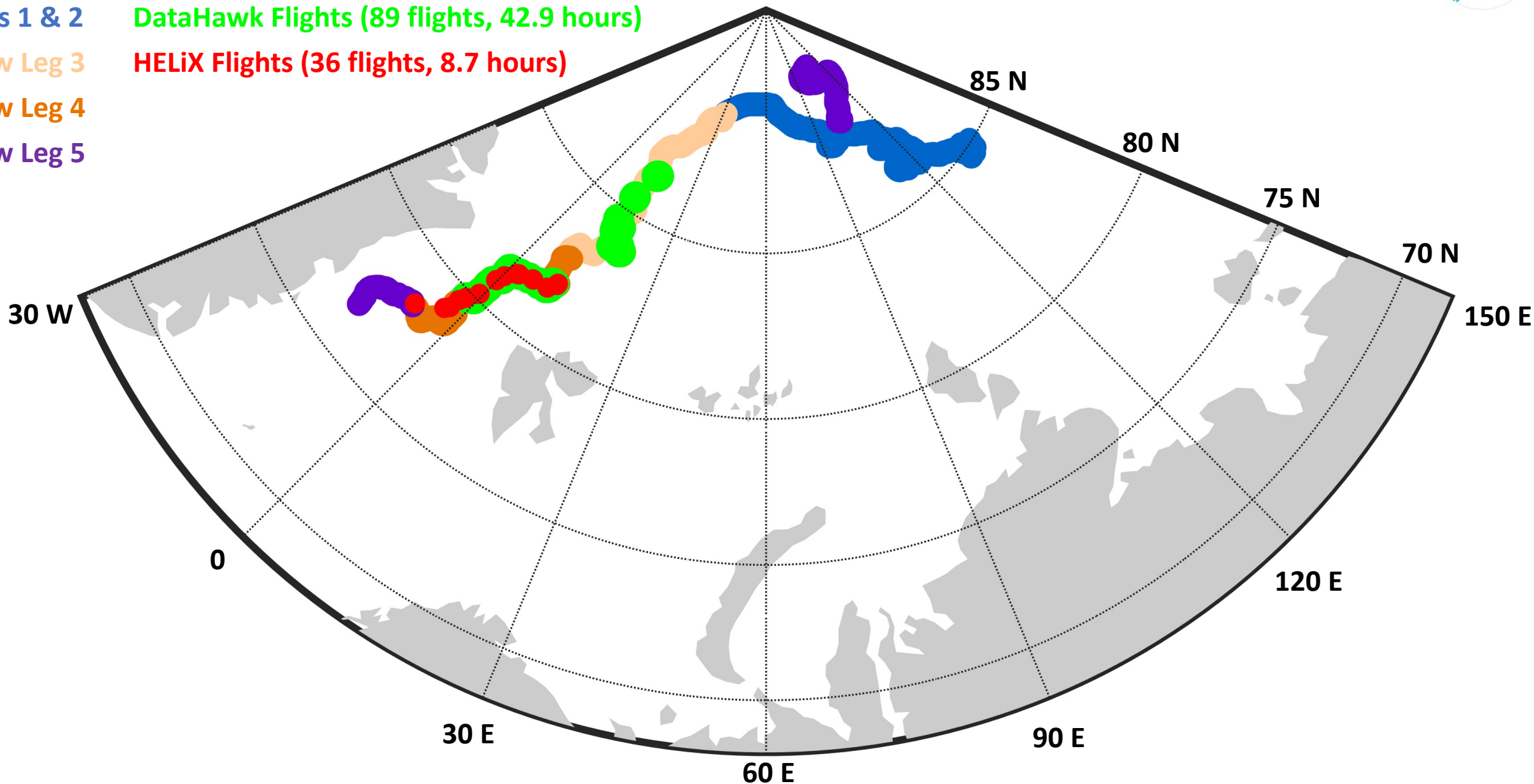
New Leg 3

New Leg 4

New Leg 5

DataHawk Flights (89 flights, 42.9 hours)

HELiX Flights (36 flights, 8.7 hours)



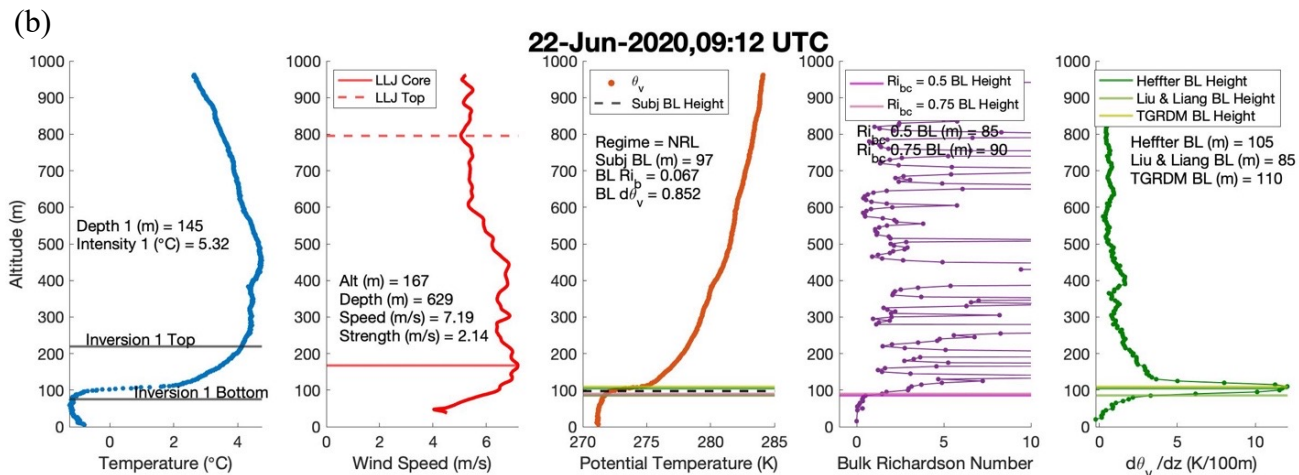
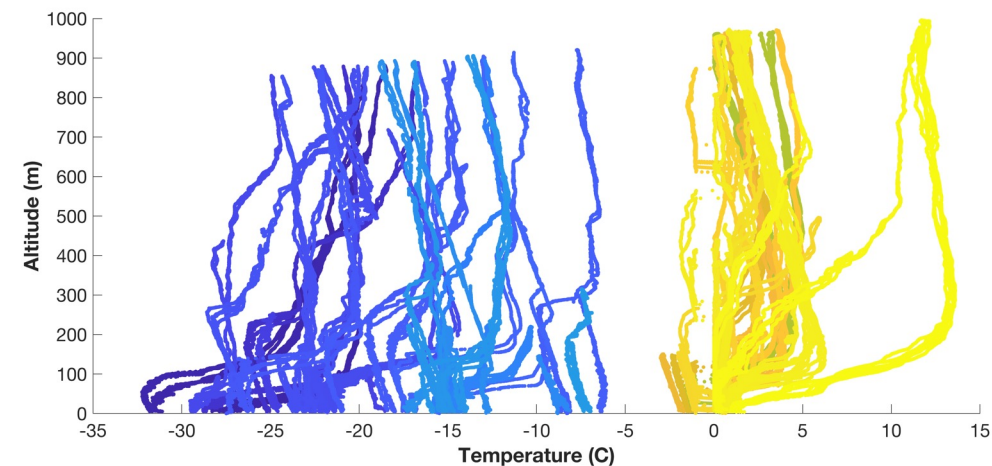
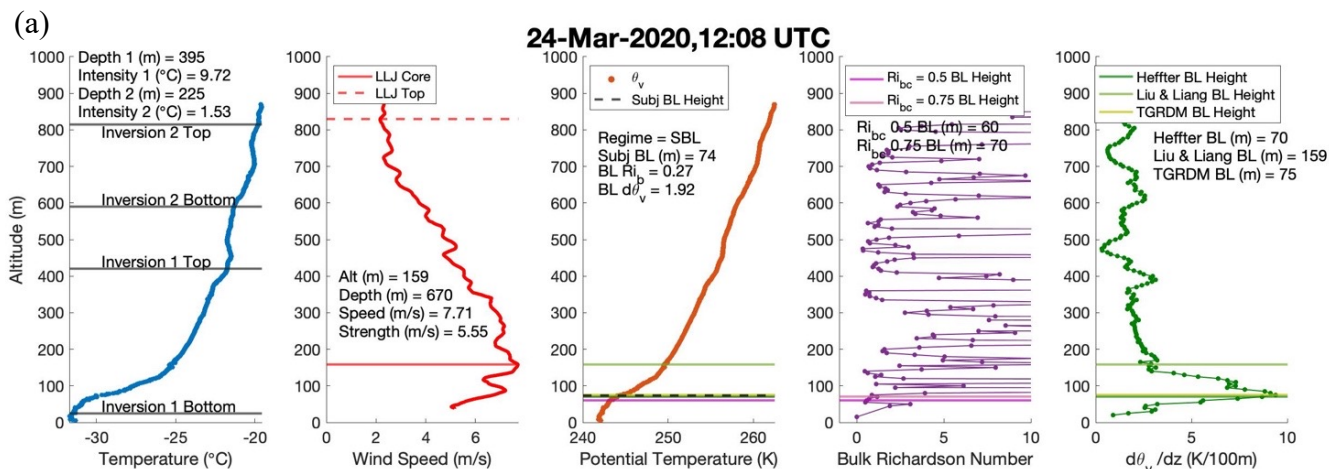


DataHawk2

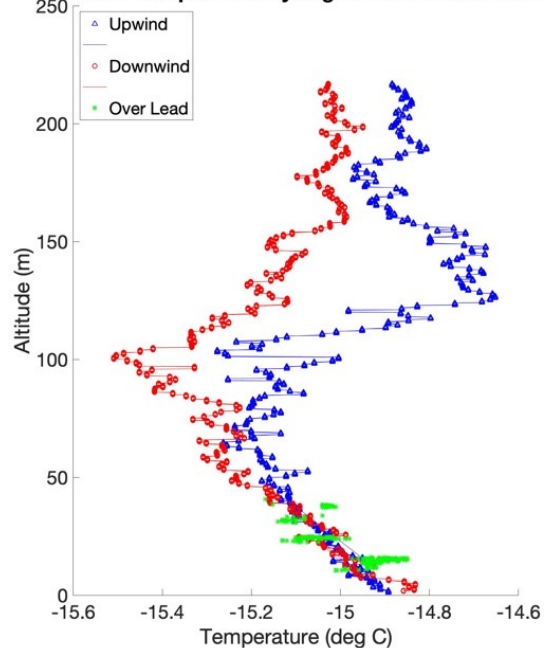


Leg 3 : March to May 2020

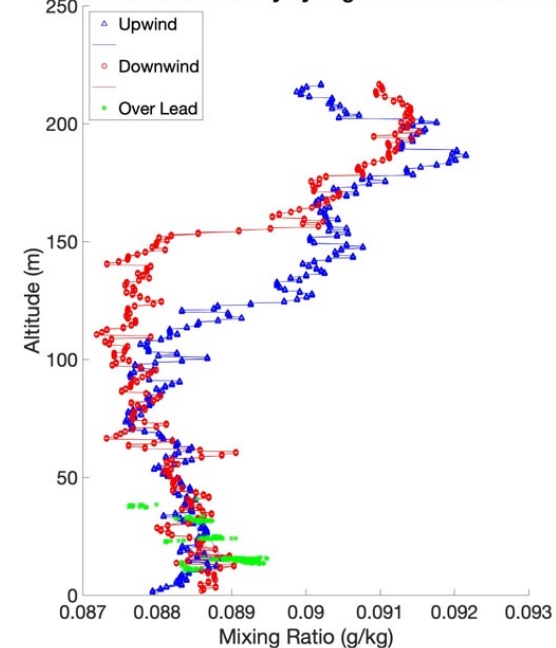
Leg 4 : June to July 2020



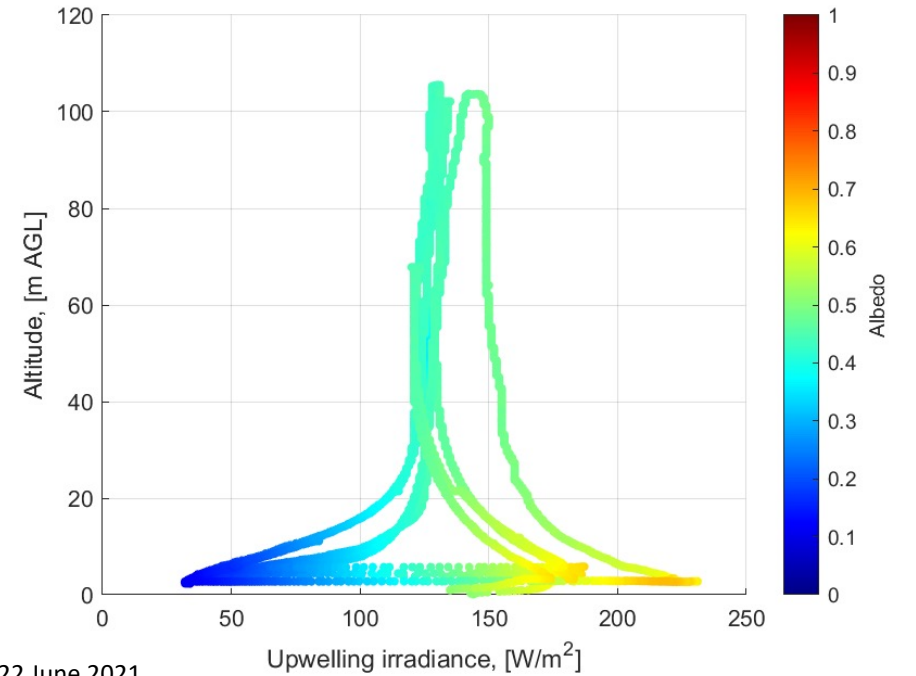
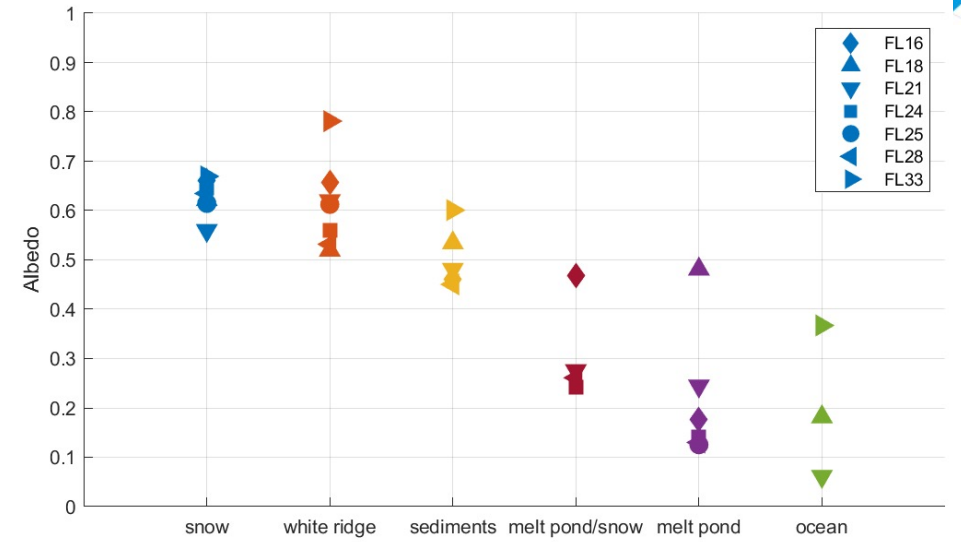
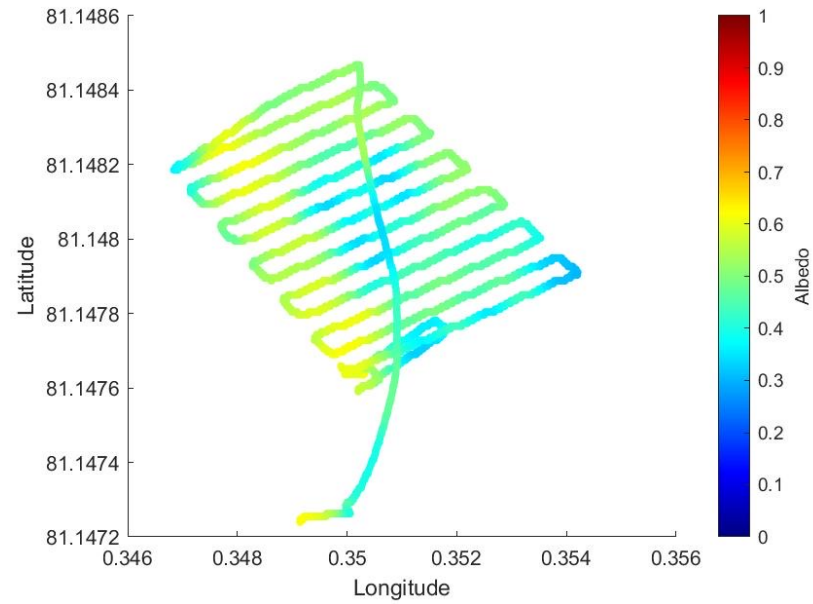
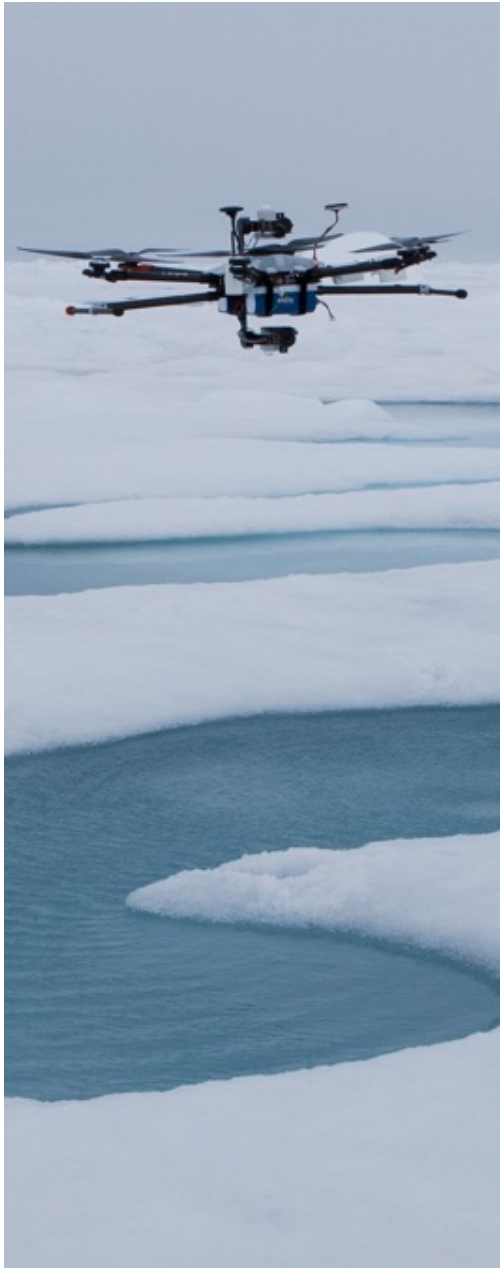
Mean Air Temperature by Flight Section vs. Altitude



Mean Absolute Humidity by Flight Section vs. Altitude



HELIX



Data Status and Areas of Interest



Data:

- Currently conducting final data file QC and data product development
- Working on development of data paper to be submitted under MOSAIC special issue in Nature Scientific Data
- Anticipated completion and posting on NSF Arctic Data Center late summer 2021

Scientific Areas of Interest:

- Leveraging UAS data for model evaluation
- Supporting parameterization evaluation and development efforts related to boundary layer properties (maybe we can develop some case study periods?)
- Additional studies of the small leads sampled with the DataHawk2
- Warm air intrusions and their impact on the surface energy budget and other quantities